



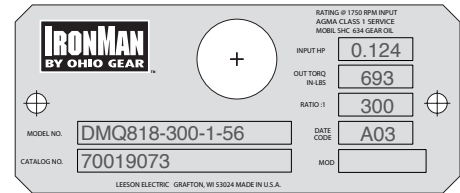
# DOUBLE REDUCTION MODEL NUMBER SYSTEM

## LEESON Canada Gear Reducer Model Number System

All stock and custom reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

Note: When ordering a double input shaft for single reduction units, include the letter "A" added to the assembly position number in the unit description (e.g.: DMQ 826-30-2A-56). When requesting a double input shaft for double and triple reduction units, contact the factory. For availability of vertical double input shafts, consult the factory.

## TYPICAL NAMEPLATE



**Style**

**SOLID OUTPUT SHAFT**  
**DMQ** – Motorized, Quill Input  
**DM** – Motorized, Flexible Coupling Input  
**D** – Non-Flanged  
 See pages 40 & 41 for other styles.

**HOLLOW OUTPUT SHAFT**  
**DHMQ** – Motorized, Quill Input  
**DHM** – Motorized, Flexible Coupling Input  
**DH** – Non-Flanged  
 See pages 42 & 43 for other styles.

**Series**

**Ratio**

See Selection Tables on pages 48-51, for all available ratios.

**CAST IRON SERIES  
CENTRE DISTANCES**

Series	Centre Distance (Inches)
813	1.33
815	1.54
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
860	6.00
8700	7.00
8800	8.00
81000	10.00

**Mounting Assembly**

Refer to dimension pages 52-69.

**Motor Flange**

NEMA Input Flange Code	For NEMA Frame
56	56C
140	143-5TC
180	182-4TC
210	213-5TC
250	254-6TC

**Output Bore Code**

Hollow Shaft Only  
See page 47.

## Sample Model Number

### Solid Shaft

Motorized Quill Input, Double Reduction Reducer, 1.75" Centre Distance, 300:1 Ratio, Left Hand Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

DMQ   818   300   1   56  
 Style   Series   Ratio   Mounting Assembly   Motor Input Flange

### Hollow Shaft

Motorized Quill Input, Double Reduction Reducer, 1.75" Centre Distance, 300:1 Ratio, 1.00" Hollow Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

DHMQ   818   300   1   56   16  
 Style   Series   Ratio   Mounting Assembly   Motor Input Flange   Output Bore Code

1. Pick a mounting style - Pages 40-43

2. Determine the Service Factor - Page 92



Duration of Service (HOURS per Day)	Uniform Load	Moderate Shock
Occasional 1/2 Hour	— <sup>a</sup>	— <sup>a</sup>
Less than 3 Hours	1.00	1.00
3 - 10 Hours	1.00	1.25
Over 10 Hours	1.25	1.50

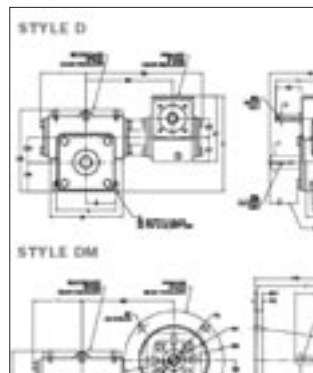
<sup>a</sup> Unspecified service factors should be 1.00 or as agreed upon by the user.

3. Match Input HP to Service Factor or Multiply Input HP by Service Factor - Page 46

4. Select Series - Pages 48-51

5. Check Thrust and Overhung Load Capacities - Page 47

6. Verify Dimensions - Pages 52-69





# DOUBLE REDUCTION QUICK SELECTION TABLES • SHIPPING WEIGHTS

## 1.00 SERVICE FACTOR • DOUBLE REDUCTION

Reduc. Ratio	Output RPM	INPUT HORSEPOWER @ 1750 RPM													
		1/8	1/6	1/4	1/3	1/2	3/4	1	1 1/2	2	3	5	7 1/2	10	15
75	23.3	13	13	15	18	21	24	26	30	42	52	600	600	800	800
100	17.5	13	15	15	21	24	26	30	32	42	52	600	600	800	1000
150	11.7	15	15	21	24	26	30	32	42	42	52	600	800	1000	1000
200	8.75	15	21	21	24	26	30	32	42	42	52	700	800	1000	
250	7.00	18	21	24	26	30	32	42	42	52	52	800	1000	1000	
300	5.83	18	21	24	26	30	32	42	42	52	52	600	800	1000	1000
400	4.38	21	24	26	30	32	42	42	52	52	700	1000	1000		
500	3.50	21	24	26	30	32	42	52	52	600	800	1000			
600	2.92	24	24	30	30	32	42	52	52	600	800	1000			
750	2.33	24	26	30	32	42	42	52	52	600	700	1000	1000		
900	1.94	24	30	30	32	42	52	52	600	800	1000				
1000	1.75	26	30	30	32	42	52	52	700	800	1000				
1200	1.46	26	30	30	32	42	52	52	700	1000	1000				
1500	1.17	30	30	32	42	52	52	600	800	1000	1000				
1800	.972	30	32	42	42	52	52	600	1000	1000					
2400	.729	30	32	42	42	52	600	800	1000	1000					
3000	.583	30	32	42	52	52	700	800	1000						
3600	.486	32	42	52	52	52	800	1000							

NOTE: This chart is meant only as a guide. For actual ratings see pages 48-51.

## 1.25 SERVICE FACTOR • DOUBLE REDUCTION

Reduc. Ratio	Output RPM	INPUT HORSEPOWER @ 1750 RPM													
		1/8	1/6	1/4	1/3	1/2	3/4	1	1 1/2	2	3	5	7 1/2	10	15
75	23.3	13	15	18	21	24	26	30	42	42	52	600	800	800	1000
100	17.5	15	15	21	21	24	30	30	42	42	52	600	800	800	1000
150	11.7	15	21	21	24	26	30	32	42	52	52	700	800	1000	
200	8.75	18	21	24	26	30	32	42	42	52	600	800	1000	1000	
250	7.00	21	24	24	30	30	42	42	52	52	600	800	1000		
300	5.83	21	24	26	30	32	42	42	52	52	700	1000	1000		
400	4.38	24	24	30	30	32	42	42	52	52	600	800	1000		
500	3.50	24	26	30	32	42	42	52	52	700	800	1000			
600	2.92	24	26	30	32	42	42	52	52	600	700	1000			
750	2.33	26	30	30	32	42	42	52	52	600	800	1000			
900	1.94	26	30	32	42	42	52	52	800	800	1000				
1000	1.75	26	30	32	42	52	52	600	800	1000	1000				
1200	1.46	30	30	32	42	52	52	600	800	1000	1000				
1500	1.17	30	30	42	42	52	52	600	700	1000	1000				
1800	.972	30	32	42	42	52	600	800	1000	1000					
2400	.729	30	32	42	52	52	800	1000	1000						
3000	.583	32	42	52	52	600	800	1000	1000						
3600	.486	42	42	52	52	600	1000	1000							

NOTE: This chart is meant only as a guide. For actual ratings see pages 48 – 51.

## DOUBLE REDUCTION • APPROXIMATE WEIGHTS (Lbs.)

Style	Unit Series													
	13	15	18	21	24	26	30	32	42	52	600	700	800	1000
D	25	30	33	37	45	55	90	101	155	283	389	478	718	1136
DM	32	35	40	44	52	62	97	108	162	292	404	493	736	1158
DMQ	28	31	36	40	48	58	93	103	158	291	393	482	728	1151
DT&DU	28	33	36	40	53	65	106	117	173	305	420	519	766	1212
DTM & DUM	35	38	43	47	60	72	113	124	180	314	435	534	784	1234
DTMQ & DUMQ	31	34	39	43	56	68	109	119	176	313	424	523	776	1227
DVL & DVH	29	35	37	45	53	66	104	115	191	318	427	549	796	1292
DVLM & DVLM	36	40	44	52	60	73	111	122	198	327	442	564	814	1314
DVLMQ & DVHMQ	32	36	40	48	56	69	107	120	194	326	431	553	806	1307
DJ	26	33	35	40	48	59	96	107	204	301	412	-	-	-
DJM	33	38	42	47	55	66	103	114	211	310	427	-	-	-
DJMQ	29	34	38	43	51	62	99	109	207	309	416	-	-	-
DF	27	33	37	41	52	64	106	117	175	301	412	493	736	1157
DFM	34	38	44	48	59	71	113	124	182	310	427	508	754	1179
DFMQ	30	34	40	44	55	67	109	119	178	309	416	497	746	1172
DH	25	30	34	40	50	59	90	101	155	283	389	478	718	1136
DHM	32	35	41	47	57	66	97	108	162	292	404	493	736	1158
DHMQ	28	31	37	43	53	62	93	103	158	291	393	482	728	1151
DFH	27	33	38	44	57	68	106	117	175	301	412	493	736	1157
DFHM	34	38	45	51	64	75	113	124	182	310	427	508	754	1179
DFHMQ	30	34	41	47	60	71	109	119	178	309	416	497	746	1172

## How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate 800 Series model. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page 92 or your LEESON CANADA representative with specific application information.

Series numbers correspond to center distances of secondary stage reducer, as shown in the chart below.

Series Key	
Series Number	Centre Distance (In.)
813	1.33
815	1.54
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
8600	6.00
8700	7.00
8800	8.00
81000	10.00



## THRUST RATINGS • DOUBLE REDUCTION (Lbs.)

Low Speed shaft	Unit Series													
	13	15	18	21	24	26	30	32	42	52	600	700	800	1000
All ratios	1144	1144	1144	1144	2091	2091	2574	2574	2533	3412	3990	4009	4777	6808

## EXTENDED BEARING DESIGN OUTPUT SHAFT OVERHUNG LOAD CAPACITY (Lbs.)

Unit Series	30	32	42	52	600	700	800	1000
OHL Capacity	605	959	1200	2524	2245	3791	4850	8500

OHL = Overhung Load  
NOTE: Load located at end of output shaft

## HIGH SPEED SHAFT OVERHUNG LOAD CAPACITY (Lbs.)

Unit Series	13	15	18	21	24	26	30	32	42	52	600	700	800	1000
OHL Capacity	75	75	75	75	75	75	75	75	75	125	150	175	175	300

OHL = Overhung Load  
NOTE: The point of application of the overhung load is considered to be one shaft diameter measured outward from the gear case housing.

## HOLLOW SHAFT BORE SIZES (Inches)\*

Fraction Size	Decimal Size	Output Bore Code	813	815	818	821	824	826	830	832	842	852	8600	8700	8800	81000	Keyway**
5/8	0.625	10															3/16 x 3/32
11/16	0.688	11															3/16 x 3/32
3/4	0.750	12															3/16 x 3/32
7/8	0.875	14															3/16 x 3/32
1	1.000	16															1/4 x 1/8
1-1/8	1.125	18															1/4 x 1/8
1-3/16	1.188	19															1/4 x 1/8
1-1/4	1.250	20															1/4 x 1/8
1-7/16	1.438	23															3/8 x 3/16
1-1/2	1.500	24															3/8 x 3/16
1-5/8	1.625	26															3/8 x 3/16
1-11/16	1.688	27															3/8 x 3/16
1-3/4	1.750	28															3/8 x 3/16
1-7/8	1.875	30															1/2 x 1/4
1-15/16	1.938	31															1/2 x 1/4
2	2.000	32															1/2 x 1/4
2-3/16	2.188	35															1/2 x 1/4
2-1/4	2.250	36															1/2 x 1/4
2-7/16	2.438	39															5/8 x 5/16
2-1/2	2.500	40															5/8 x 5/16
2-11/16	2.688	43															5/8 x 5/16
2-15/16	2.938	47															3/4 x 3/8
3	3.000	48															3/4 x 3/8
3-3/16	3.188	51															3/4 x 3/8
3-7/16	3.438	55															7/8 x 7/16
3-15/16	3.937	63															1 x 1/2
4-3/16	4.187	67															1 x 1/2
4-7/16	4.437	71															1 x 1/2
4-15/16	4.937	79															1-1/4 x 5/8
5-7/16	5.437	87															1-1/4 x 5/8

Stock Bore Sizes.

\* Other bore sizes are available. Contact LEESON for sizes and availability.

\*\* Dimensions refer to customer driven shaft.

NOTE: Specify the required bore size when ordering. The suffix "XX" can be substituted with the bore code from table above. Refer to page 44 for complete model number description.

## IN THIS CATALOGUE

RPM = Revolutions Per Minute

HP = Horsepower

TQ = Torque In (lb.in.)

OHL = Overhung Load In Pounds At Centreline Of Output Shaft With No Thrust Load.

TL = Thrust Load (lbs.) - Output Shaft